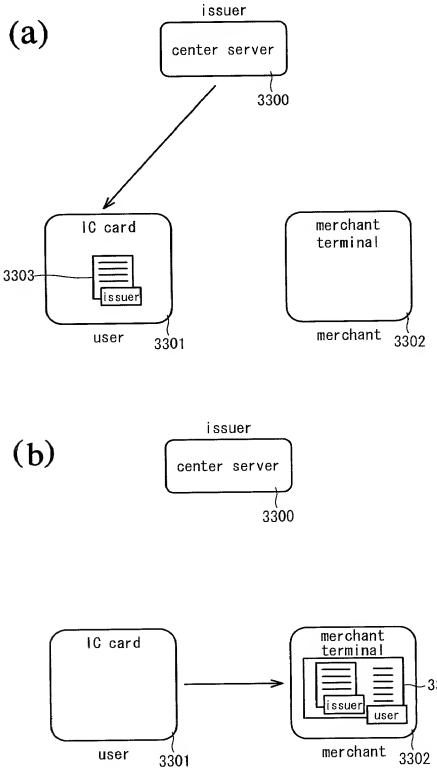
09831830.081501

Fig. 1 Prior Art



10T380 08313830

Fig. 2

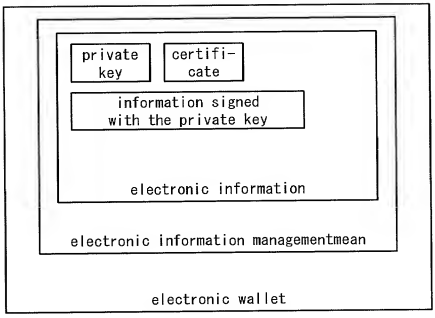


Fig. 3

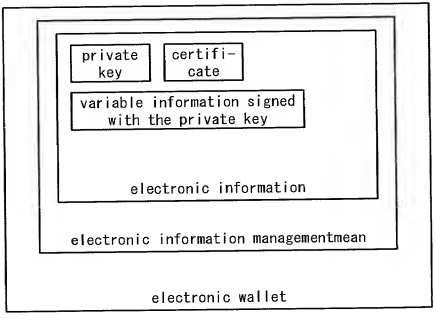


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Fig. 4

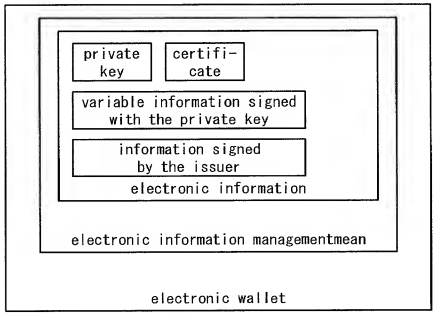


Fig. 5

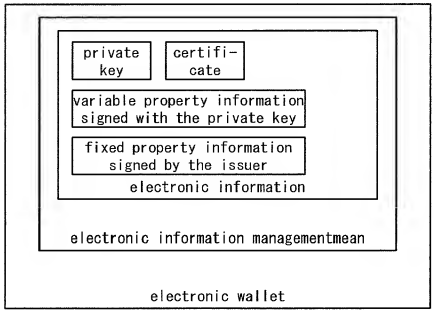
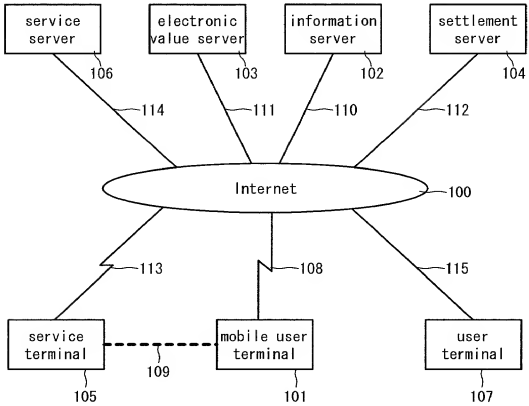
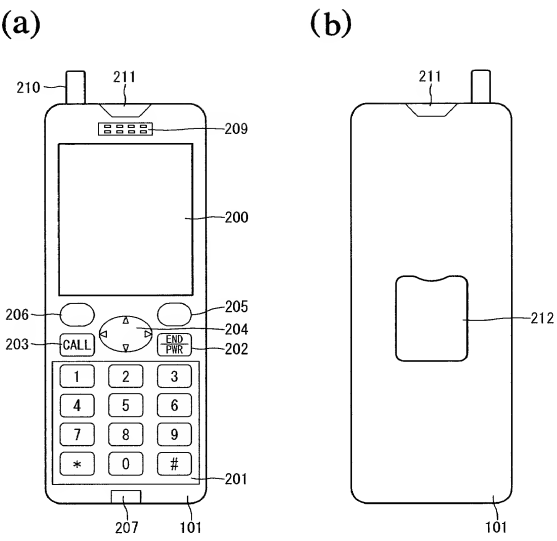


Fig. 6


service server
electronic value server
information server
settlement server
106
103
102
104
114
111
110
112
Internet
100
113
108
115
service terminal
mobile user terminal
user terminal
109
105
101
107

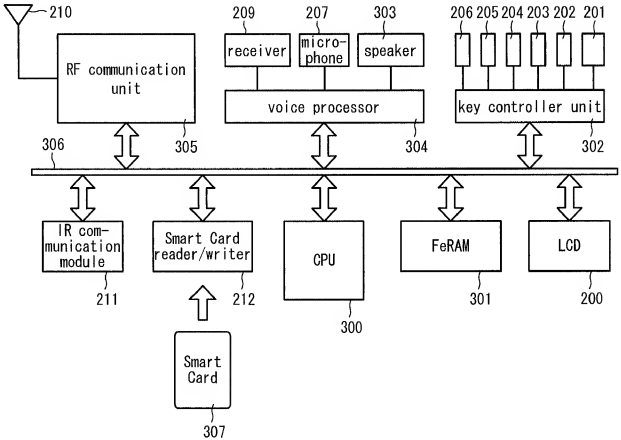
TOTES0 "0E3T830

Fig. 7



TOTE80" OE8TE860

Fig. 8



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09/831830

Fig. 9

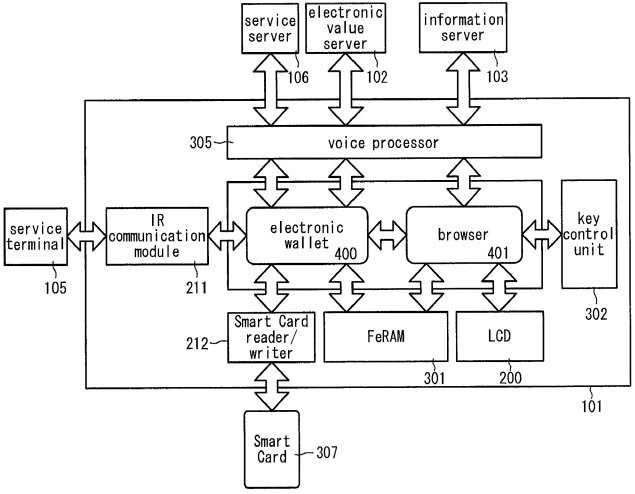
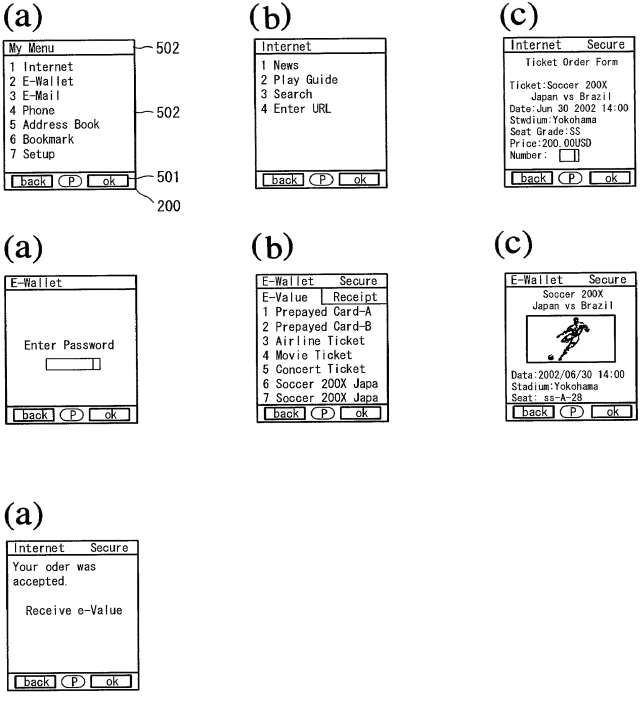


Fig. 10



09831830"082101

Fig. 11

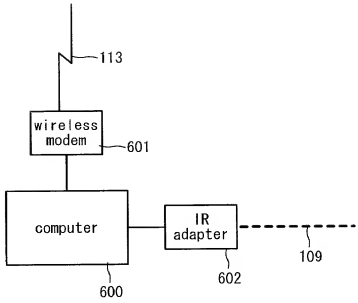

113
wireless modem
601
computer
IR adapter
109
600
602

Fig. 12

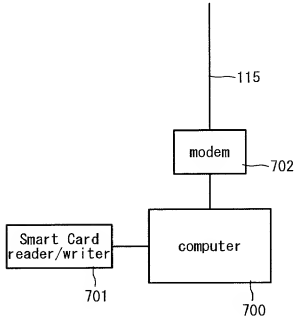

115
modem
702
Smart Card reader/writer
computer
701
700

Fig. 13

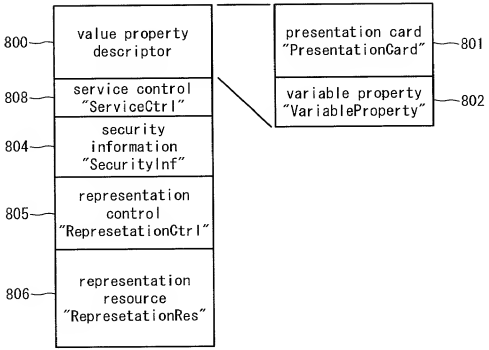

800
value property descriptor
808
service control "ServiceCtrl"
804
security information "SecurityInf"
805
representation control "RepresetationCtrl"
806
representation resource "RepresetationRes"
presentation card "PresentationCard"
801
variable property "VariableProperty"
802

Fig. 14

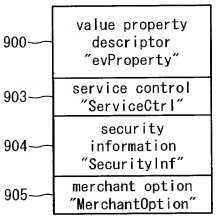

900
value property descriptor "evProperty"
903
service control "ServiceCtrl"
904
security information "SecurityInf"
905
merchant option "MerchantOption"

Fig. 15

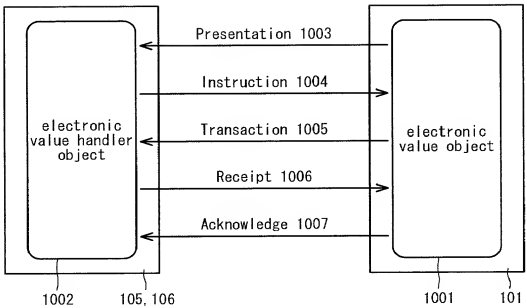

Presentation 1003
Instruction 1004
Transaction 1005
Receipt 1006
Acknowledge 1007
electronic value handler object
electronic value object
1002
105, 106
1001
101

Fig. 16

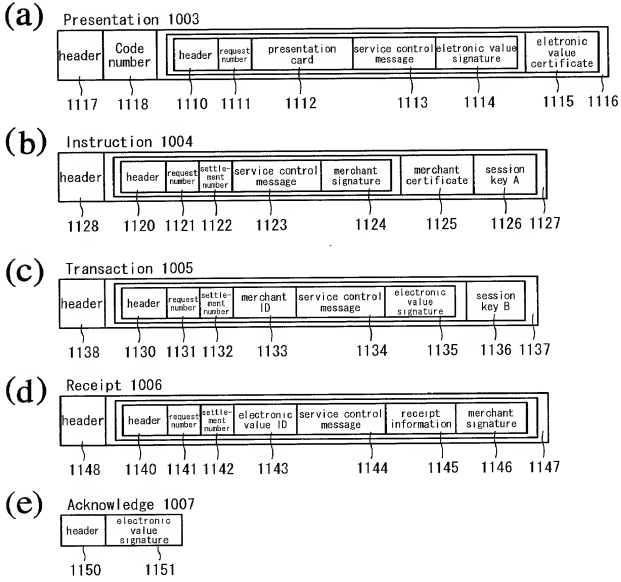

(a)
Presentation 1003
header
Code number
header
request number
presentation card
service control message
eletronic value signature
eletronic value certificate
1117 1118 1110 1111 1112 1113 1114 1115 1116
(b)
Instruction 1004
header
header
request number
settle-ment number
service control message
merchant signature
merchant certificate
session key A
1128 1120 1121 1122 1123 1124 1125 1126 1127
(c)
Transaction 1005
header
header
request number
settle-ment number
merchant ID
service control message
electronic value signature
session key B
1138 1130 1131 1132 1133 1134 1135 1136 1137
(d)
Receipt 1006
header
header
request number
settle-ment number
electronic value ID
service control message
receipt information
merchant signature
1148 1140 1141 1142 1143 1144 1145 1146 1147
(e)
Acknowledge 1007
header
electronic value signature
1150 1151

Fig. 17

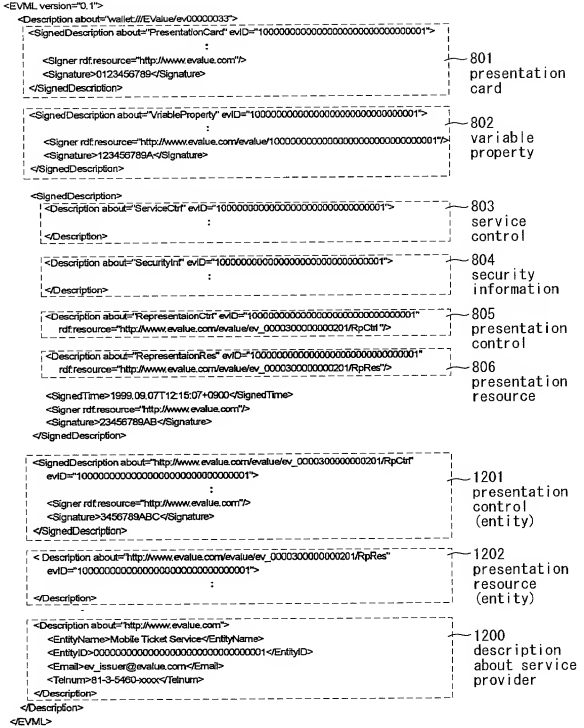

<EVML version="0.1">
<Description about="wallet:///EValue/ev00000033">
<SignedDescription about="PresentationCard" evID="10000000000000000000000000000001">
:
<Signer rdf:resource="http://www.evalue.com/"/>
<Signature>0123456789</Signature>
</SignedDescription>
801 presentation card
<SignedDescription about="VriableProperty" evID="10000000000000000000000000000001">
:
<Signer rdf:resource="http://www.evalue.com/evalue/10000000000000000000000000000001"/>
<Signature>123456789A</Signature>
</SignedDescription>
802 variable property
<SignedDescription>
<Description about="ServiceCtrl" evID="10000000000000000000000000000001">
:
</Description>
803 service control
<Description about="SecurityInf" evID="10000000000000000000000000000001">
:
</Description>
804 security information
<Description about="RepresentaionCtrl" evID="10000000000000000000000000000001"
rdf:resource="http://www.evalue.com/evalue/ev_0000300000000201/RpCtrl"/>
805 presentation control
<Description about="RepresentaionRes" evID="10000000000000000000000000000001"
rdf:resource="http://www.evalue.com/evalue/ev_0000300000000201/RpRes"/>
806 presentation resource
<SignedTime>1999.09.07T12:15:07+0900</SignedTime>
<Signer rdf:resource="http://www.evalue.com/"/>
<Signature>23456789AB</Signature>
</SignedDescription>
<SignedDescription about="http://www.evalue.com/evalue/ev_0000300000000201/RpCtrl"
evID="10000000000000000000000000000001">
:
<Signer rdf:resource="http://www.evalue.com/"/>
<Signature>3456789ABC</Signature>
</SignedDescription>
1201 presentation control (entity)
< Description about="http://www.evalue.com/evalue/ev_0000300000000201/RpRes"
evID="10000000000000000000000000000001">
:
</Description>
1202 presentation resource (entity)
<Description about="http://www.evalue.com">
<EntityName>Mobile Ticket Service</EntityName>
<EntityID>00000000000000000000000000000001</EntityID>
<Email>ev_issuer@evalue.com</Email>
<Telnum>81-3-5460-xxxx</Telnum>
</Description>
1200 description about service provider
</Description>
</EVML>

Fig. 18

```
<SignedDescription about="PresentationCard" evID="10000000000000000000000000000001">
    <evType>ticket</evType>
    <evCode>0000300000000201</evCode>
    <evID>10000000000000000000000000000001</evID>
    <evName>Soccer 200X Ticket</evName>
    <evConditionBitmap>0000000000000001</evConditionBitmap>
    <evProp name="TITLE" value="Soccer 200X Japan vs Brazil"/>
    <evProp name="DATE" value="2002.06.30T14:00+0900"/>
    <evProp name="GATE_OPEN" value="2002.06.30T10:00+0900"/>
    <evProp name="LOCATION_NAME" value="Yokohama"/>
    <evProp name="LOCATION_URI" value="http://www.yis.co.jp/map"/>
    <evProp name="SEAT_NUM" value="SS-A-28"/>
    <evProp name="SEAT_POS" value="http://www.mts.com/ticket123/seat/SS-A-28"/>
    <evProp name="SPONSOR_NAME" value="WORLD FOOTBALL ASSOCIATION"/>
    <evProp name="SPONSOR_URI" value="http://www.wfa.org"/>
    <evProp name="CONTACT_TELNUM" value="+81-3-5460-xxxx"/>
    <evProp name="CONTACT_URI" value="http://www.mts.com/contact"/>
    <evProp name="ISSUER_NAME" value="Mobile Ticket Service"/>
    <evProp name="ISSUER_URI" value="http://www.mts.com"/>
    <evProp name="MESSAGE_1" value="No Dangerous  Objects"/>
    <SignedTime>1999.09.07T12:15:07+0900</SignedTime>
    <Signer rdf:resource="http://www.evalue.com"/>
    <Signature>0123456789</Signature>
</SignedDescription>

<SignedDescription about="VriableProperty" evID="10000000000000000000000000000001">
    <evFlag VALIDITY=1 USED=0/>
    <evProp name="USE_SERIAL" value=0/>
    <evProp name="NUMBER" value=1/>
    <evProp name="START_VALID" value="1999.07.23T00:00+0900"/>
    <evProp name="END_VALID" value="2002.06.30T23:59+0900"/>
    <evProp name="MESSAGE_2" value=/>
    <SignedTime>1999.09.07T12:15:07+0900</SignedTime>
    <Signer rdf:resource="http://www.evalue.com/evalue/10000000000000000000000000000001"/>
    <Signature>123456789A</Signature>
</SignedDescription>
```

10T80"0E3T86080

Fig. 19

```
<Description about="ServiceCtrl" evID="10000000000000000000000000000001">
   <SC-module type="ticket" ID=1 number=$NUMBER start=$START_VALID end=$END_VALID
      used_flag=$USED validity_flag=$VALIDITY serial=$USE_SERIAL/>
   <SC-module type="verify_prop" ID=2 prop=$SEAT_NUM/>
   <SC-module type="set_message" ID=3 msg=$MESSAGE_2/>
</Description>

<Description about="SecurityInf" evID="10000000000000000000000000000001">
   <evOwner>
      <Description about="http://www.evalue.com/user/11000000000000000000000000000001"
         EntityName="Taro Suzuki"
         EntityID="11000000000000000000000000000001"/>
   </evOwner>
   <evResource>http://www.evalue.com/evalue/10000000000000000000000000000001</evResource>
   <evCertificate>
      0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF0123456789ABCDEF
   </evCertificate>
   <evPrivateKey>0123456789</evPrivateKey>
   <evAuthKey>0123456789ABCDEF</evAuthKey>
   <evhandlerAuthKey>ABCDEF0123456789</evhandlerAuthKey>
</Description>
```

"0831830 "0831830

Fig. 20

```
<SignedDescription about="http://www.evalue.com/evalue/ev_0000300000000201/RpCtrl"
    evID="1000000000000000000000000000000001">
    <OptimumRpCtrl>
        <Description about="http://www.evalue.com/evalue/ev_0000300000000201/RpCtrl_M01">
            < RpType>MOBILE 01</RpType>
            < RepresentaionCtrlData>
                <CARD name="Main">
                    <HAEAD>
                        <TITLE><evP>$TITLE</evP></TITLE>
                    </HAEAD>
                    <BODY>
                    <Do type="ACCEPT">
                        <Go HREF="wallet:///evTransact"/>
                    </Do>
                    <CENTER><H1><evP>$TITLE</evP></H1></CENTER>
                    <BR><CENTER><IMG SRC="wallet:///evResource label=MAIN_IMG"></CENTER>
                    <BR><UL>Date:<evP>$DATE</evP>
                    <BR>Stadium:<A HREF=<evP>$LOCATION_URI</evP>><evP>$LOCATION_NAME</evP></A>
                    <BR>Seat:<A HREF=<evP>$SEAT_POS</evP>><evP>$SEAT_NUM</evP></A>
                    <BR><A HREF="Detail">Details</A></UL>
                    </BODY>
                </CARD>
                <CARD name="Detail">
                    <HAEAD>
                        <TITLE><evP>$TITLE</evP></TITLE>
                    </HAEAD>
                    <BODY>
                    <Do type="ACCEPT">
                        <Go HREF="wallet:///evTransact"/>
                    </Do>
                    <CENTER><H1><evP>$TITLE</evP></H1></CENTER>
                    <BR><UL>Date:<evP>$DATE</evP>
                    <BR>Open Gate:<evP>$GATE_OPEN</evP>
                    <BR>Stadium:<A HREF=<evP>$LOCATION_URI</evP>><evP>$LOCATION_NAME</evP></A>
                        <BR><A HREF="wallet:///evResource label=MAP">Map</A>
                    <BR>Seat:<A HREF=<evP>$SEAT_POS</evP>><evP>$SEAT_NUM</evP></A>
                    <BR>Term of Validity: <evV>$START_VALID</evV> - <evV>$END_VALID</evV>
                    <BR>Sponsor:<A HREF=<evP>$SPONSOR_URI</evP>><evP>$SPONSOR_NAME</evP></A>
                    <BR>Contact:<A HREF="telephone:///dial num=<evP>$CONTACT_TELNUM</evP>">
                        <evP>$CONTACT_TELNUM</evP></A>
                    <BR>Issuer:<A HREF=<evP>$ISSUER_URI</evP>><evP>$ISSUER_NAME</evP></A>
                    <BR><evP>$MESSAGE_1</evP>
                    <BR><evV>$MESSAGE_2</evV>
                    <BR><A HREF="Main">Top Page</A></UL>
                    </BODY>
                </CARD>
            </RpresentaionCtrlData>
        </Description>
    </OptimumRpCtrl>
    <SignedTime>1999.09.07T12:15:07+0900</SignedTime>
    <Signer rdf:resource="http://www.evalue.com"/>
    <Signature>3456789ABC</Signature>
</SignedDescription>
```

TOP"09831830

Fig. 21

```
< Description about="http://www.evalue.com/evalue/ev_0000300000000201/RpRes"
   evID="10000000000000000000000000000001">
   <OptimumRpRes>
      <Image>
         URI="http://www.evalue.com/resources/0123456789ABCDEF"
         label="MAIN_IMG"
         type="jpeg"
         data="1202A846574A63D946 ..... B48364605987F687543"
      </Image>
      <Image>
         URI="http://www.evalue.com/resources/123456789ABCDEF0"
         label="MAP"
         type="jpeg"
         data="202A846574A63D946B ..... 48364605987F687543F"
      </Image>
      <Sound>
         URI="http://www.evalue.com/resources/23456789ABCDEF01"
         label="Greet"
         type="mp3"
         data="1202A846574A63D946 ..... B48364605987F687543"
      </Sound>
   </OptimumRpRes>
</Description>
```

09831830 "081101

Fig. 22

```
<EVML version='0.1'>
  <CARD name="Main">
    <HAEAD>
      <TITLE>Soccer 200X Japan vs Brazil </TITLE>
    </HAEAD>
    <BODY>
      <Do type="ACCEPT">
        <Go HREF='wallet:///evTransact'/>
      </Do>
      <CENTER><H1>Soccer 200X Japan vs Brazil </H1></CENTER>
      <BR><CENTER><IMG SRC='wallet:///evResource label=MAIN_IMG'></CENTER>
      <BR><UL>Date: 2002.06.30T14:00+0900
      <BR>Stadium:<A HREF="http://www.yis.co.jp/map"> Yokohama </A>
      <BR>Seat:<A HREF="http://www.mts.com/ticket123/seat/SS-A-28"> SS-A-28</A>
      <BR><A HREF="Detail">Details</A></UL>
    </BODY>
  </CARD>
</EVML>
```

09831830.083101

Fig. 23

```
<EVML version="0.1">
  <Description about="evMerchant:///evHandler/evh00000001">
    <SignedDescription>
      <Description about="evProperty" evhandlerID="20000000000000000000000000000001">
        <evType>ticket</evType>
        <evCode>0000300000000201</evCode>
        <evhandlerID>20000000000000000000000000000001</evhandlerID>
        <evName>Soccer 200X Ticket</evName>
        <evConditionBitmap>0000000000000001</evConditionBitmap>
        <evProp name="TITLE" value="Soccer 200X Japan vs Brazil"/>
        <evProp name="DATE" value="2002.06.30T14:00+09:00"/>
        <evProp name="GATE_OPEN" value="2002.06.30T10:00+09:00"/>
        <evProp name="LOCATION_NAME" value="Yokohama"/>
        <evProp name="LOCATION_URI" value="http://www.yis.co.jp/map/"/>
        <evProp name="SEAT_NUM" value= permission="public"/>
                                :
        <evProp name="MESSAGE_2" value= permission="public"/>
      </Description>
      <Description about="ServiceCtrl" evhandlerID="20000000000000000000000000000001">
        <SC-module type="ticket" ID=1 number=$NUMBER start=$START_VALID end=$END_VALID
            used_flag=$USED validity_flag=$VALIDITY serial=$USE_SERIAL />
        <SC-module type="verify_prop" ID=2 prop=$SEAT_NUM/>
        <SC-module type="set_message" ID=3 msg=$MESSAGE_2/>
      </Description>
      <Description about="SecurityInf" evhandlerID="20000000000000000000000000000001">
        <evhandlerOwner>
          <Description about="http://www.evalue.com/merchant/21000000000000000000000000000001"
            EntityName="ABC Event Service"
            EntityID="21000000000000000000000000000001"/>
        </evhandlerOwner>
        <evResource>http://www.evalue.com/evhandler/20000000000000000000000000000001
        </evResource>
        <evAuthKey>0123456789ABCDEF</evAuthKey>
        <evhandlerAuthKey>ABCDEF0123456789</evhandlerAuthKey>
      </Description>
      <SignedTime>1999.09.07T12:15:07+0900</SignedTime>
      <Signer>
        <Description about="http://www.evalue.com/">
          <EntityName>Mobile Ticket Service</EntityName>
          <EntityID>00000000000000000000000000000001</EntityID>
          <Email>ev_issuer@evalue.com</Email>
          <Telnum>81-3-5460-xxxx</Telnum>
        </Description>
      </Signer>
      <Signature>23456789AB</Signature>
    </SignedDescription>
    <Description about="MerchantOption" evhandlerID="20000000000000000000000000000001">
      <SetevProp>$SEAT_NUM="SS-*-*"</SetevProp>
      <SetevProp>$MESSAGE_2="Special News available: http://www.yis.co.jp/news/20020630"
      </SetevProp>
    </Description>
  </Description>
</EVML>
```

900 value property descriptor

903 service control

904 security information

905 merchant option

09831830 '091831830

Fig. 24

(a)

```
<SC-MSG>
  <scm_msg ID=1 number=1 start="1999.07.23T00:00+0900" end="2002.06.30T23:59+0900"
    used_flag=0 validity_flag=1 serial=0/>
  <scm_msg ID=2 prop="SS-A-28"/>
  <scm_msg ID=3 msg=/>
</SC-MSG>
```

(b)

```
<SC-MSG>
  <scm_msg ID=1 number=0 start="2002.06.30T12:25+0900" end="2002.06.30T23:59+0900"
    used_flag=1 validity_flag=1 serial=1/>
  <scm_msg ID=3 msg="Special News available: http://www.yis.co.jp/news/20020630"/>
</SC-MSG>
```

(c)

```
<SC-MSG>
  <scm_msg ID=1 number=0 start="2002.06.30T12:25+0900" end="2002.06.30T23:59+0900"
    used_flag=1 validity_flag=1 serial=1/>
  <scm_msg ID=2 prop="SS-A-28"/>
  <scm_msg ID=3 msg="Special News available: http://www.yis.co.jp/news/20020630"/>
</SC-MSG>
```

(d)

```
<SC-MSG>
    <scm_msg ID=1 serial=1/>
</SC-MSG>
```

Fig. 25

09831830.083101

```
<SignedDescription about="VriableProperty" evID="10000000000000000000000000000001">
    <evFlag VALIDITY=1 USED=1/>
    <evProp name="USE_SERIAL" value=1/>
    <evProp name="NUMBER" value=0/>
    <evProp name="START_VALID" value="2002.06.30T12:25+0900"/>
    <evProp name="END_VALID" value="2002.06.30T23:59+0900"/>
    <evProp name="MESSAGE_2" value="Special News available: http://www.yis.co.jp/news/20020630"/>
    <SignedTime>2002.06.30T12:25+0900</SignedTime>
    <Signer rdf.resource="http://www.evalue.com/evalue/10000000000000000000000000000001"/>
    <Signature>A12345678A</Signature>
</SignedDescription>
```

Fig. 26

```
<EVML version="0.1">
  <CARD name="Receive EV ">
    <HAEAD>
      <TITLE>Receive Electronic Value</TITLE>
    </HAEAD>
    <BODY>
      Your order was accepted.
      <BR>
      <CENTER>
      <H1>
        <Go HREF="wallet:///evReceive">
          <param name="EV_ISSUER_URI"   value="http://www.evalue.com"/>
          <param name="SESSION_NUM"   value="a01b23c45d67e89f"/>
          Receive e-Value
        </Go>
      </H1>
      </CENTER>
    </BODY>
  </CARD>
</EVML>
```

09831830.083101

Fig. 27

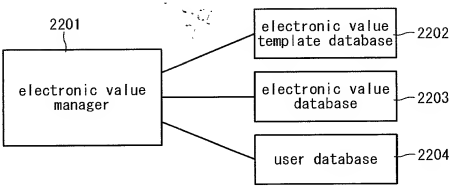
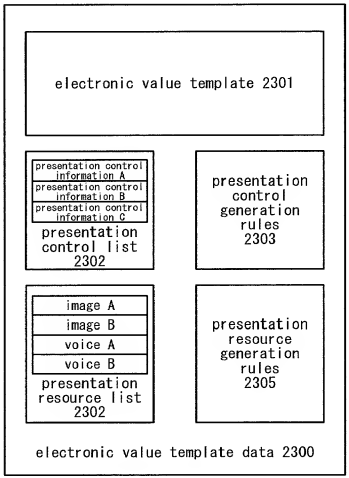


Fig. 28

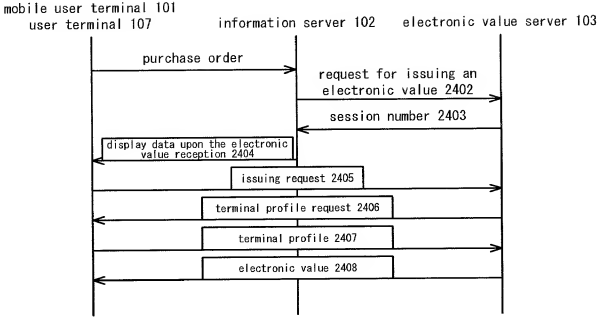


09831830.083101

09831830"081501

Fig. 29

(a)



(b)

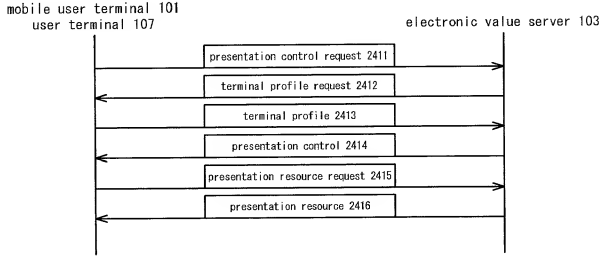


Fig. 30

(a)

```
<Description about="evIssuingRequest" ID="1000000000000123">
    <evType>ticket<evType>
    <evCode>0000300000000201</evCode>
    <evProp name="SEAT_NUM" value=" SS-A-28"/>
    <evProp name=" SEAT_POS" value=" http://www.mts.com/ticket123/seat/SS-A-28"/>
</Description>
```

(b)

```
<Description about="TerminalProfile" >
    <TerminalType>MT0001</TerminalType>
    <BrowserType>B000B20A</BrowserType>
    <eWalletType>W000A10B</eWalletType>
    <Screen>160x200x8</Screen>
</Description>
```

Fig. 31

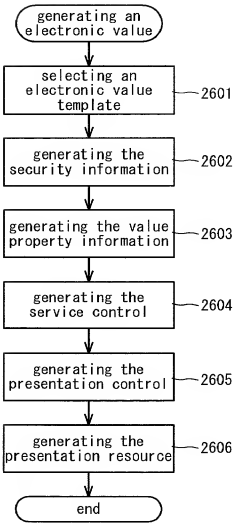

generating an electronic value
selecting an electronic value template
2601
generating the security information
2602
generating the value property information
2603
generating the service control
2604
generating the presentation control
2605
generating the presentation resource
2606
end

Fig. 32

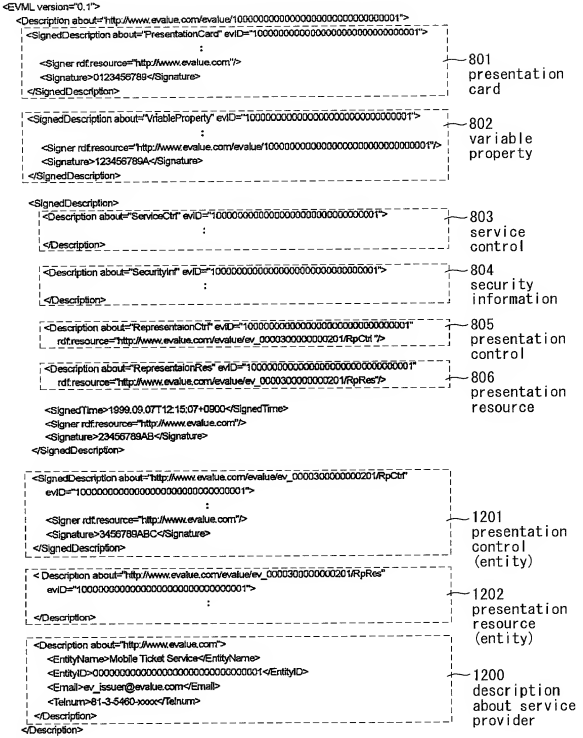

<EVML version="0.1">
<Description about="http://www.evalue.com/evalue/10000000000000000000000000000001">
<SignedDescription about="PresentationCard" evID="10000000000000000000000000000001">
:
<Signer rdf:resource="http://www.evalue.com"/>
<Signature>0123456789</Signature>
</SignedDescription>
801 presentation card
<SignedDescription about="VriableProperty" evID="10000000000000000000000000000001">
:
<Signer rdf:resource="http://www.evalue.com/evalue/10000000000000000000000000000001"/>
<Signature>123456789A</Signature>
</SignedDescription>
802 variable property
<SignedDescription>
<Description about="ServiceCtrl" evID="10000000000000000000000000000001">
:
</Description>
803 service control
<Description about="SecurityInf" evID="10000000000000000000000000000001">
:
</Description>
804 security information
<Description about="RepresentaionCtrl" evID="10000000000000000000000000000001"
rdf:resource="http://www.evalue.com/evalue/ev_00003000000000201/RpCtrl"/>
805 presentation control
<Description about="RepresentaionRes" evID="10000000000000000000000000000001"
rdf:resource="http://www.evalue.com/evalue/ev_00003000000000201/RpRes"/>
806 presentation resource
<SignedTime>1999.09.07T12:15:07+0900</SignedTime>
<Signer rdf:resource="http://www.evalue.com"/>
<Signature>23456789AB</Signature>
</SignedDescription>
<SignedDescription about="http://www.evalue.com/evalue/ev_00003000000000201/RpCtrl"
evID="10000000000000000000000000000001">
:
<Signer rdf:resource="http://www.evalue.com"/>
<Signature>3456789ABC</Signature>
</SignedDescription>
1201 presentation control (entity)
<Description about="http://www.evalue.com/evalue/ev_00003000000000201/RpRes"
evID="10000000000000000000000000000001">
:
</Description>
1202 presentation resource (entity)
<Description about="http://www.evalue.com">
<EntityName>Mobile Ticket Service</EntityName>
<EntityID>00000000000000000000000000000001</EntityID>
<Email>ev_issuer@evalue.com</Email>
<Telnum>81-3-5460-xxxx</Telnum>
</Description>
1200 description about service provider
</Description>
</EVML>

Fig. 33

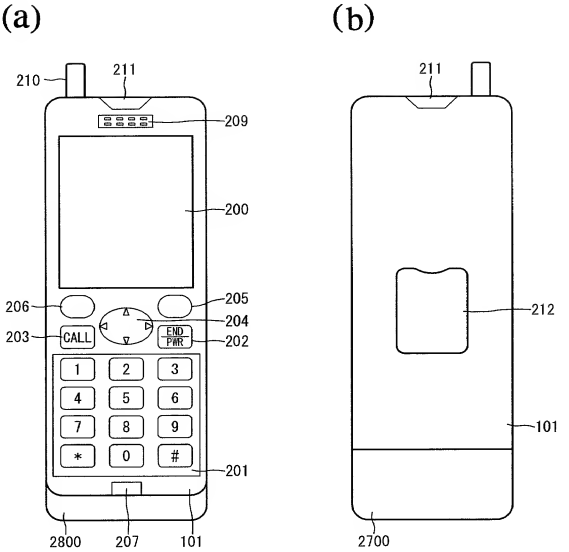
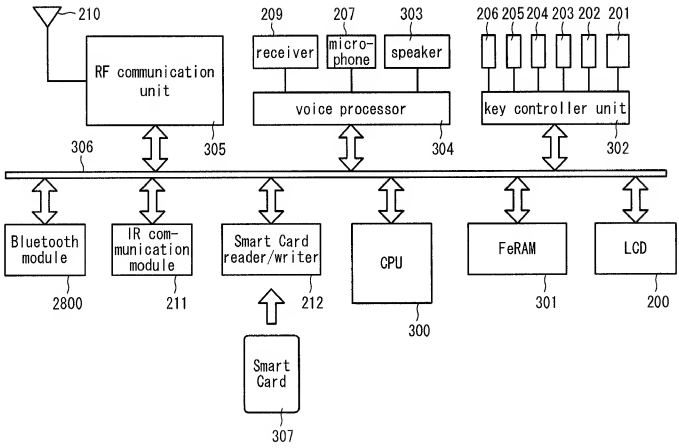
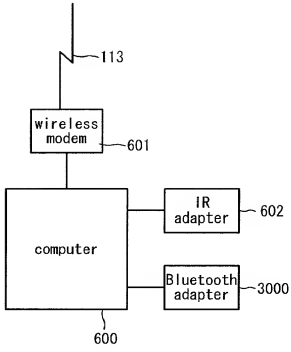

(a)
(b)
210
211
209
200
206
205
204
203
CALL
END
PWR
202
1
2
3
4
5
6
7
8
9
*
0
#
201
2800
207
101
211
212
101
2700

Fig. 34



09/831830

Fig. 35



09831830"081301

Fig. 36

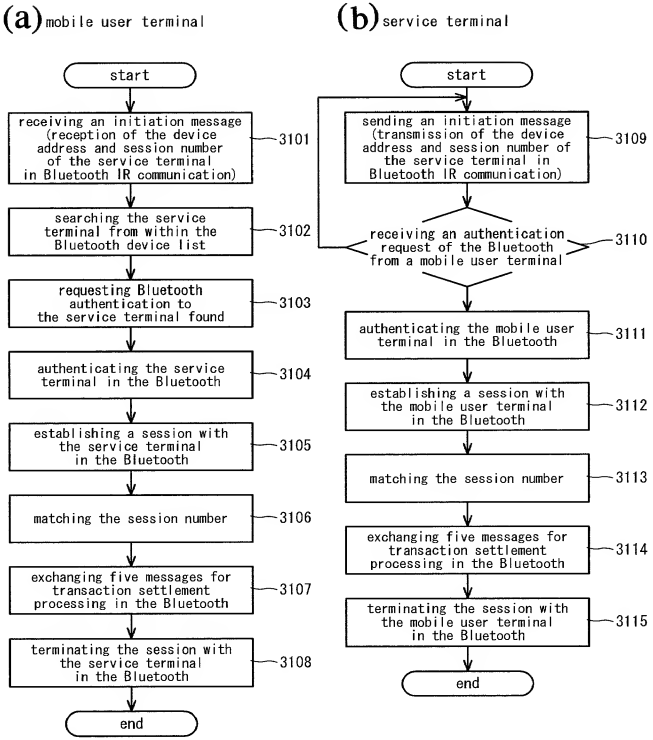
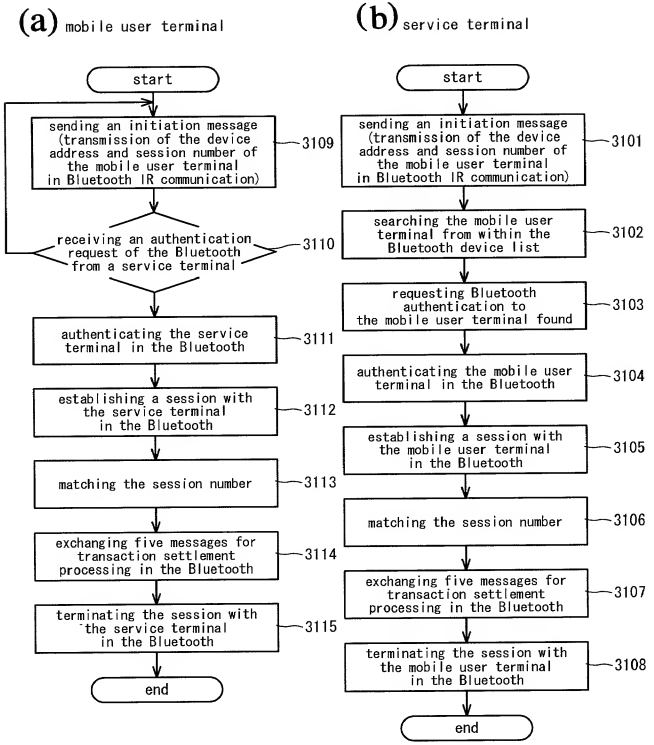

(a) mobile user terminal
start
receiving an initiation message (reception of the device address and session number of the service terminal in Bluetooth IR communication)
3101
searching the service terminal from within the Bluetooth device list
3102
requesting Bluetooth authentication to the service terminal found
3103
authenticating the service terminal in the Bluetooth
3104
establishing a session with the service terminal in the Bluetooth
3105
matching the session number
3106
exchanging five messages for transaction settlement processing in the Bluetooth
3107
terminating the session with the service terminal in the Bluetooth
3108
end
(b) service terminal
start
sending an initiation message (transmission of the device address and session number of the service terminal in Bluetooth IR communication)
3109
receiving an authentication request of the Bluetooth from a mobile user terminal
3110
authenticating the mobile user terminal in the Bluetooth
3111
establishing a session with the mobile user terminal in the Bluetooth
3112
matching the session number
3113
exchanging five messages for transaction settlement processing in the Bluetooth
3114
terminating the session with the mobile user terminal in the Bluetooth
3115
end

Fig. 37


(a) mobile user terminal
start
sending an initiation message (transmission of the device address and session number of the mobile user terminal in Bluetooth IR communication)
3109
receiving an authentication request of the Bluetooth from a service terminal
3110
authenticating the service terminal in the Bluetooth
3111
establishing a session with the service terminal in the Bluetooth
3112
matching the session number
3113
exchanging five messages for transaction settlement processing in the Bluetooth
3114
terminating the session with the service terminal in the Bluetooth
3115
end
(b) service terminal
start
sending an initiation message (transmission of the device address and session number of the mobile user terminal in Bluetooth IR communication)
3101
searching the mobile user terminal from within the Bluetooth device list
3102
requesting Bluetooth authentication to the mobile user terminal found
3103
authenticating the mobile user terminal in the Bluetooth
3104
establishing a session with the mobile user terminal in the Bluetooth
3105
matching the session number
3106
exchanging five messages for transaction settlement processing in the Bluetooth
3107
terminating the session with the mobile user terminal in the Bluetooth
3108
end